

REMARKS

In the outstanding Official Action, Figure 3 was objected-to as lacking designation with a legend such as "Prior Art". Claim 3 was rejected under 35 U.S.C. §112, second paragraph, as indefinite. Claims 1, 3-5 and 9-11 were rejected under 35 U.S.C. §103(a) over Applicant's Admitted Prior Art in view of HYNCEK (U.S. Patent No. 4,679,212), and further in view of TANI (U.S. Patent No. 5,339,162). Claims 6, 8 and 12 were rejected under 35 U.S.C. §103(a) over Applicant's Admitted Prior Art in view of HYNCEK in view of TANI, and further in view of LEVINE (U.S. Patent No. 4,703,442).

Applicant traverses the objection to the drawings. In this regard, the outstanding Official Action asserts that "Fig. 3 is clearly an illustration of the prior art full frame transfer type CCD described by Applicant on page 1, line 10 – page 2, line 5", and required that the Figure be designated by a legend such as "Prior Art". However, the above-noted assertion is improper and incorrect, as Figure 3 is described in the "BRIEF DESCRIPTION OF THE DRAWINGS" and the "DESCRIPTION OF THE PREFERRED EMBODIMENTS" as a portion of the description of an embodiment of the present invention, but is not described in the "Description of the Related Art" at page 1, line 10 – page 2, line 5. In particular, the disclosure describes Figure 3 in the context of a first embodiment, and the CCD 30 shown in Figure 3 is described from page 9, line 6 to page 10, line 19. Accordingly, Applicant respectfully requests reconsideration and withdrawal of the objection to the drawings.

Additionally, upon entry of the present amendment, Applicant will have amended claim 3 to depend from claim 1. In view of the amendment to claim 3, Applicant

respectfully requests reconsideration and withdrawal of the rejection of claim 3 under 35 U.S.C. §112, second paragraph.

Applicant will also have amended claim 8 to depend directly from claim 1, so as to avoid duplicating recitations of claim 6 from which claim 8 formerly depended. Claims 1, 4, 8, 9 and 10 have also been amended to more clearly recite the features of the claimed invention. The amendments to claims 1, 4, 8, 9 and 10 are supported by the disclosure of the present application at, e.g., page 10, lines 4-5 and page 12, line 25 to page 15, line 25. Accordingly, Applicant respectfully submits that the herein-contained amendments do not add new matter to the present application.

Applicant respectfully submits that each of the outstanding rejections under 35 U.S.C. §103(a) is improper. In this regard, the Official Action asserts that it would be obvious to modify Applicant's Admitted Prior Art with a "voltage control processor" of HYNECEK, but then admits that HYNECEK does not explicitly disclose such a "voltage control processor". Rather, the Official Action asserts, at page 4, lines 10-12, that "the voltage control processor is implicit in the description on column 14, lines 43-54". However, although the structure of the apparatus in HYNECEK is explicitly shown in Figures 12, 17 and 18, none of these Figures disclose a "voltage control processor" as would be understood by one of ordinary skill in the art; nor has the Examiner identified any "voltage control processor" in HYNECEK. Further, the term "processor" does not appear anywhere in HYNECEK.

Additionally, the outstanding Official Action asserts that HYNECEK discloses "said voltage control processor fixing a voltage level of said first electrode and periodically

changing a voltage of said second electrode” at col. 12, lines 12-42. However, the portions of col. 12 in HYNCEK that are applied by the Examiner only describe an evaluation of “the three most important parameters: overload capacity, dark current, and quantum efficiency”, and not a “voltage control processor fixing a voltage level of said first electrode and periodically changing a voltage of said second electrode”. Furthermore, Applicant notes that the Official Action does not identify which electrodes in HYNCEK are asserted to be associated with a fixed voltage level or which electrode is asserted to be “periodically” changed “in accordance with a length of said accumulating period”. Further, as noted above, the Official Action does not identify a “voltage control processor” in HYNCEK that would perform such “fixing” and “changing” of voltage levels for the different electrodes. Accordingly, Applicant respectfully submits that the outstanding Official Action is improperly ignoring the above-noted features recited in claim 1.

The Official Action also asserts, at page 4, lines 19-22, that “Hyncek discloses that this voltage control processor can be used... for providing anti-blooming and other functions utilizing electron-hole recombination”. However, as noted above, the Examiner has failed to identify a “voltage control processor” in HYNCEK, such that there is no basis for the assertion that a “voltage control processor” of HYNCEK can be used to modify Applicant’s Admitted Prior Art.

Additionally, Applicant submits that the outstanding Official Action is incorrect in asserting that the teachings of HYNCEK relied upon in the rejection of claim 1 are directed to a “light receiving element”. Rather, the teachings of HYNCEK applied in the outstanding Official Action appear to relate to a transfer CCD in which the charge pumping

operation is carried out. While the charge pumping operation is carried out in the transfer CCD in HYNECEK, the transfer CCD in HYNECEK is not a "light receiving element". In contrast, claim 1 recites that "a charge pumping operation is performed" based on "said voltage control processor fixing a voltage level of said first electrode and periodically changing a voltage level of said second electrode and a voltage level of said third electrode, in accordance with a length of said accumulating period". In this regard, the first electrode, the second electrode and the third electrode in claim 1 are provided to a light receiving element of an imaging device.

Applicant further submits that the teachings of HYNECEK applied by the Examiner fail to disclose a light receiving element provided in common with a vertical transfer passage. As noted above, the applied teachings of HYNECEK are not disclosed to represent a light receiving element. Accordingly, Applicant submits that the applied teachings of HYNECEK do not disclose or suggest that the transfer CCD is a light receiving element provided in common with a vertical transfer passage (i.e., at least because the CCD is not disclosed as a light receiving element).

Applicant further submits that the above-noted features are not disclosed, suggested or rendered obvious, in the claimed combination, by TANI or LEVINE; nor has the Examiner applied TANI or LEVINE as teaching any feature recited in claim 1 except setting an accumulation period.

Accordingly, Applicant submits that there is no proper motivation to modify Applicant's Admitted Prior Art to obtain the above-noted feature recited in Applicant's claim 1; rather, the only motivation to modify Applicant's Admitted Prior Art to obtain the above-

noted features recited in claim 1 is the improper motivation of the Examiner to obtain Applicant's claimed invention in hindsight. Furthermore, even modification of Applicant's Admitted Prior Art in the manner asserted by the Examiner would not result in the invention recited in Applicant's claim 1. Accordingly, Applicant respectfully submits that the rejection of claim 1 is improper.

In any case, Applicant has amended claim 1 to more clearly recite the features of the claimed invention. In this regard, claim 1 has been amended to recite a feature of the "imaging device having a light receiving element provided with first, second and third electrodes", and the voltage control processor "fixing a voltage level of said first electrode and periodically changing a voltage level of said second electrode and a voltage level of said third electrode, in accordance with a length of said accumulating period, such that phases of the voltage levels of the second electrode and third electrode are offset while a voltage level of the first electrode is fixed" (currently amended). Applicant respectfully submits that, in addition to the previously stated reasons for the allowability of claim 1, the combination of references applied in the outstanding Official Action additionally fail to disclose, suggest or render obvious at least the above-noted additional features recited in the amended claim, in the claimed combination.

Accordingly, Applicant respectfully submits that claim 1 is allowable, at least for each of the reasons set forth above. Applicant further submits that independent claims 9 and 10 recite a combination of features that includes features similar to various of the above-noted features recited in claim 1. Accordingly, Applicant submits that claims 9 and 10 are allowable at least for reasons similar to the reasons set forth above for the

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allowability of claim 1.

Applicant further submits that claims 2-6, 8 and 11-12 are allowable, at least for depending, directly or indirectly, from an allowable independent claim, as well as for additional reasons related to their own recitations. Accordingly, reconsideration and withdrawal of each of the outstanding rejections, as well as an indication of the allowability of each of the claims now pending, is respectfully requested.


SUMMARY AND CONCLUSION

In view of the fact that none of the art of record, whether considered alone or in combination, discloses or suggests the present invention as now defined by the pending claims, and in further view of the above amendments and remarks, reconsideration of the Examiner's action and allowance of the present application are respectfully requested and are believed to be appropriate.

Any amendments to existing claims which have been made in this amendment, and which have not been specifically noted to overcome a rejection based upon the prior art, should be considered to have been made for a purpose unrelated to patentability, and no estoppel should be deemed to attach thereto.

If there should be any questions concerning this application, the Examiner is invited to contact the undersigned at the telephone number listed below.

Respectfully submitted,  
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June 27, 2005  
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